Claims

1. A holographic display comprising:

a source of coherent light;

an Electrically Addressable Spatial Light Modulator (EASLM) in the path of the light source and arranged in use to be driven successively by a set of sub-holograms which together correspond to a holographic image; and

light guiding means arranged to guide light output from the EASLM such that the sub-holograms are displayed successively in respective tiled regions of an EASLM projection surface.

2. A display according to claim 1, wherein said light guiding means comprises replicating optics arranged in use to replicate the light output from the EASLM so as to provide multiple images.

3. A display according to claim 2, wherein the light guiding means comprises an array of electronically controlled shutters disposed between the replicating optics and said EASLM projection surface, said shutters being controlled such that only that shutter, which is aligned with a tiled region of the EASLM projection surface associated with a given sub-hologram, is open when the EASLM is being driven by that sub-hologram.

4. A display according to any one of the preceding claims, wherein the light guiding means comprises means disposed at the EASLM projection surface, or between the EASLM and the EASLM projection surface, for causing the apparent diverging light illumination of the EASLM images to be redirected to appear to be a plane wave or other wavefront illumination.

5. A display according to claim 4, wherein said means causing diverging light to be redirected to provide an apparent wavefront illumination comprises an array of lenses or a holographic redirector disposed at or near the EASLM projection surface.

6. A display according to any one of the preceding claims, wherein the light source used to illuminate the EASLM may comprise a single light source, or a plurality of light sources.

7. A display according to claim 6, wherein the angle of incidence of the light upon the EASLM depends upon the spatial position, within the hologram, of a sub-hologram currently being displayed, the angle being switched in synchronisation with the sub-hologram update rate of the EASLM.

8. A display according to claim 6 or 7, wherein the light source comprises an array of light sources disposed behind the replicating optics.

9. A display according to any one of the preceding claims, wherein baffles are positioned in an intermediate image plane so that light associated with the d.c. spot and conjugate image is blocked.

10. A method of displaying a hologram, the method comprising:

successively driving an Electrically Addressable Spatial Light Modulator (EASLM) with a set of sub-holograms which together correspond to a holographic image;

directing coherent light onto the EASLM; and

guiding light output from the EASLM such that the sub-holograms are displayed successively in respective tiled regions of an EASLM projection surface.

11. A holographic display comprising:

a light source;

an Electrically Addressable Spatial Light Modulator (EASLM) in the path of the light source and arranged in use to be driven successively by a set of sub-holograms which together correspond to a holographic image;

light guiding means arranged to guide light output from the EASLM such that the sub-holograms are displayed successively in respective tiled regions of an EASLM projection surface; and

an array of lenses disposed on the output side of said EASLM projection plane, the lenses of the array being aligned with respective tiled regions.

12. A holographic display comprising a plurality of displays according to claim 11, the displays being combined to enable a holographic image to be displayed with a large number of pixels.